1. Geographic Description

USCG Marine Safety Unit Baton Rouge - Lower Mississippi River (MM 225-303)

- (a) Marine Safety Unit (MSU) Baton Rouge's Area Of Responsibility (AOR) is comprised of the following Parishes: Avoyelles, Evangeline, St Landry, Pointe Coupee, West Feliciana, East Feliciana, St Helena, West Baton Rouge, East Baton Rouge, Livingstone, Iberville and Ascension and includes the Lower Mississippi River from MM 167 303. This section of the Waterways Action Plan applies to the Lower Mississippi River beginning in Baton Rouge (MM 225) and ending at the Old River Lock (MM 303).
- (b) The Mississippi River Basin or Watershed drains 41% of continental United States. Thirty-one states and 2 Canadian provinces are included in the watershed. The total area drained by the watershed is between 1.2 and 1.8 million square miles. Historically during the spring months, when the snow and ice melts in the Northern states, the Mississippi River experiences a sharp increase in river levels, flow rates and floating debris, which degrade the navigation channels and increase the potential for river industry related accidents. During low water, restrictions on the navigable widths of the rivers and the maximum safe drafts of barges can impede commerce.
- (c) The Port of Baton Rouge has recently been expanded and upgraded with extensive storage facilities. It ranks ninth in the nation in waterborne commerce and is the farthest inland deep-water port on the Mississippi River. Petroleum products, iron, steel, grain, rubber, paper, wood, coffee, coal, chemicals and edible oils are shipped through the port.
- (d) There are six (6) fleets that have been used "historically" in the past to fleet regulated and unregulated cargo. There is one (1) repair facility (located in Baton Rouge) that has floating dry docks. There are eighteen (18) towing companies with towing and fleeting capabilities.

CG Marine Safety Unit Baton	Rouge – Area of Responsibility
Lower Mississippi River	MM 225 – MM 303

2. Parties and Roles

2. A. General

The successful management of any river crisis is dependent on the cooperation of the waterway system participants. This includes agencies of the federal, state, and local governments, industry groups, and the general public. This chapter identifies the key organizations in these areas, outlines their authority and responsibilities, and explains their roles during a river crisis. Industry groups for the MSU Baton Rouge AOR serve a vital role, serving as a liaison between industry and federal agencies and addressing waterways conditions encompassing the Lower Mississippi River.

This plan shall not replace existing plans. The purpose of this plan is to be used in conjunction with existing plans, incorporating pertinent information to identify critical problem areas based on federal agency and industry experience and through statistical analysis.

2. A.1 Industry Groups & Representatives (LOMRC, GICA, GSMA, GNOBFA & NOBRA)

Lower Mississippi River Committee (LOMRC) LOMRC is a committee of the Lower Mississippi River towing companies, formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Lower Mississippi River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between New Orleans, LA and Memphis, TN. LOMRC is coordinated by a volunteer chairman from industry.

<u>Gulf Intracoastal Canal Association (GICA)</u> The mission of GICA is to ensure the Gulf Intracoastal Waterway is maintained, operated and improved to provide the safest, most efficient, economical and environmentally-sound water transportation route in our nation, serving petrochemical facilities, refineries, farms, mines, ports, commercial fisheries, recreation and more.

<u>Gulf States Maritime Association (GSMA)</u> GSMA is the industry's liaison with Federal agencies such as Customs, U. S. Coast Guard, U.S.D.A, Army Corps of Engineers and Immigration. Also, the Association is concerned with matters at the source of regulation - Congress and the State Legislature. The Association deals with such diverse matters as adequate deep-draft anchorage areas and channels in the Mississippi River, the Mississippi River-Gulf Outlet, and the Calcasieu River.

<u>Greater New Orleans Barge Fleeting Association (GNOBFA)</u> GNOBFA is a non-profit association of companies engaged in the operation of barge fleets and towboats in the New Orleans -- Baton Rouge corridor. The purpose of the Association is to promote a closer professional relationship between members, to disseminate information pertaining to fleeting and the river industry, to support member companies when consistent with the interests of the organization as a whole, and to improve relations with communities, regulating government bodies, and other professional organizations.

<u>New Orleans and Baton Rouge Steamship Pilots Association (NOBRA)</u> NOBRA works closely with the local Coast Guard MSO (Marine Safety Office), providing information on casualties and vessel deficiencies.

** Contact information available in password protected version.

2. B. Federal Agencies

The United States Code (USC) provides regulatory authority for establishing and authorizing work or structures constructed within the navigable waterways and maintaining navigation throughout U.S. territorial waters. Included as part of a national waterway system are numerous rivers, lakes and streams that comprise the inland waterway system. Navigation on these "navigable waters of the United States" are regulated primarily by the United States Coast Guard (USCG). The United States Army Corps of Engineers (USACOE or ACOE) provides technical advice to the USCG to enable them to properly evaluate and make decisions on navigation safety matters. The ACOE is also responsible for authorizing waterway projects, evaluating and maintaining navigable channels, and directing emergency flood control operations (such as activation of spillways).

2. B.1 United States Coast Guard (USCG)

Title 14, USC, defines USCG roles and responsibilities in establishing and maintaining the safety of ports and waterways, 33 CFR Part 165.20 gives COTP's and USCG District Commanders the authority to impose safety zones, security zones, and other restrictions to ensure the safe flow of navigation. Activities of the COTP's are overseen by the Commander, Eighth Coast Guard District, in New Orleans, LA. Activities of the Unit Commanding Officers are overseen by the Sector Commander, Sector New Orleans, in New Orleans, LA.

CG Marine Safety Unit Baton Rouge – Area of Responsibility					
Lower Mississippi River	MM 167.5 – MM 303.0				

2. B.1.a. Safety Advisory

Navigation Safety Advisories are the simplest form of intervention and rely on the voluntary compliance of industry to limit risk and prevent vessel casualties. USCG advisories are usually issued after consultation with the ACOE and industry-user groups. They can be originated by the USCG or self imposed by industry, and disseminated as a Broadcast Notice to Mariners (BNTM), ACOE bulletin board, River Industry Bulletin Board (RIBB), over the industry facsimile, or any combination of these methods. The purpose is to advise the marine industry of hazardous conditions and provide recommendations for safe navigation. Advisories can also be used to notify the marine industry of the Captain of the Port's (COTP) intention to take action with respect to developing hazardous navigation conditions. Advisories are important tools that provide marine interests time to adjust their operations to avoid future problems.

B.1.b. Safety Zone

During extreme high or low water conditions, commercial vessel navigation can become increasingly hazardous. Extreme river conditions may require the establishment of a safety zone by the COTP, imposing vessel-operating restrictions. Consultation and deliberation with the ACOE and industry-user groups usually precede implementation of a safety zone by the USCG. A safety zone entails the control of a portion of the

waterway, enabling the USCG to control access and/or prescribe operating restrictions on vessels seeking to navigate in the area. Safety zones can be applied to limited or large geographical areas and may involve simple or complex restrictions including, but not limited to:

- Towing vessel horsepower requirements (per barge ratio) & assist towing vessel requirements
- Specific tow configuration, tow size limits, length/breadth limits & draft limits
- Safe speed zones, no-passing zones, no-meeting zones or traffic separation schemes
- Tank barge prohibitions or the exclusion of all vessels from the safety zone
- Reporting requirements

The establishment of a safety zone may include active control of vessel traffic through an area or it may be conducted passively, relying on voluntary compliance to limit risk. Safety zones using passive control have been imposed on other waterways during periods of high or abnormally low water and when local construction or pollution response cleanup operations are impacted by passing traffic.

2. B.1.c. Security Zone

In some cases a security zone may be implemented to protect persons, property and the environment from actual or potential threats related to terrorism or destruction. These extreme cases may require the establishment of a security zone by the COTP to impose restrictions on a vessel or a specific waterway. Consultation and deliberation with the ACOE, and industry-user groups usually precede implementation of a security zone by the USCG. A waterborne security zone entails the control of a portion of the waterway, enabling the USCG to control access and/or prescribe restrictions on vessels and/or persons entering through the area. Security zones can be applied to limited or large geographical areas and may involve simple or complex restrictions.

2. B.1.d. Captain of the Port Order (COTP Order)

Captain of the Port Orders are specific directions provided to an individual, facility or vessel and are detailed and exact in scope. Issued under the authority of the Ports and Waterways Safety Act, compliance with COTP Orders is required, and failure may result in civil or criminal penalty action. In general, COTP Orders will only be used when a terminal or vessel appears to be operating in an unsafe manner or to reduce a potential hazard or mitigate damage to the environment or property.

2. B.2 United States Army Corps of Engineers (USACOE or ACOE)

Title 33 U.S.C., defines the ACOE roles and responsibilities regarding development of, or change to, waterfront facilities, weirs, dams or dikes. Specifically, the ACOE is authorized to review and approve all changes to hydrodynamic structures for the purposes of maintaining a navigable channel. In addition, the ACOE is charged with conducting operations to maintain the physical nature of a navigable channel on particular waterways. Generally, the ACOE has the responsibility to maintain a 9 foot congressionally authorized project depth within the navigable channel on the Ohio River System. The ACOE is also responsible for directing emergency flood control operations and collecting information on flood stages and damage.

ACOE POSITION	DUTIES &	EOHALS	USCG	DUTIES &
ACOE POSITION	RESPONSIBILITIES	EQUALS	POSITION	RESPONSIBILITIES

			Chief, Port Operations	Manages daily waterway management and casualty operations& supervises operational response issues
	RIDI	PORTS TO:		
Lockmaster for Old River, Port Allen, Bayou Sorrell Locks	Supervise and maintain locks		Commanding Officer MSU Baton Rouge	Senior USCG Officer in Baton Rouge AOR
	REE	ORTS TO:		
District Engineer, New Orleans	Supervise Corps activities in New Orleans District		Sector New Orleans Commander	Senior USCG officer in area

3. Communications

3. B. Mississippi River Communications Plan

3. B.2. Lower Mississippi River

<u>Lower Mississippi River Committee (LOMRC)</u> is a committee of the Lower Mississippi River towing companies, formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Lower Mississippi River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between from MM 585 to the mouth. LOMRC is coordinated by a volunteer chairman from industry.

<u>Gulf Intracoastal Canal Association (GICA)</u> is a committee of the Gulf Intracoastal Waterway consortium of companies, formed to address navigation problems during significant changes in waterway conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Gulf Intracoastal Waterway navigation and is the major liaison between the marine industry, the Coast Guard, and the Army Corps of Engineers for canal conditions from the Port Allen Lock in Baton Rouge, LA to the mouth in Morgan City, LA. GICA is coordinated by a volunteer chairman from industry.

3.B.2.a. Lower Mississippi River Towing Industry Communications Plan (LOMRC)

** Contact information available in password protected version.

Additional Industry Contacts

- ** Contact information available in password protected version.
- 3. B.2.b. Lower Mississippi River Government Agency Communications Plan
- ** Contact information available in password protected version.
- 3. B.2.c Lower Mississippi River Miscellaneous Contacts
- ** Contact information available in password protected version.

3.B.2.d. Lower Mississippi River Internet Information Communications Plan

Internet Site Purpose	Web Address
River Industry Bulletin Board (R.I.B.B.)	http://www.ribb.com/index.php
National Response Center (NRC) – Report Pollution / Terrorist Activity	http://www.nrc.uscg.mil/nrchp.html
Ohio River Lock & Dam Vessel Queues	http://www.ribb.com/riverstatus/river_locks.php
River Gauges	www.rivergages.com
Lower Mississippi River Forecast Center	http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml
National Weather Service (NWS) – River Forecasts	http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml
U.S. Army Corps of Engineers – River Gauges	http://www.lrd-wc.usace.army.mil/text/navrpti.txt
U.S. Army Corps of Engineers – Real Time River Gauges	http://www.mvn.usace.army.mil/eng/edhd/Wcontrol/miss.htm
U.S. Army Corps of Engineers –Lock information	http://www.mvn.usace.army.mil/od/lockupdates/statusindex.asp

U.S. Army Corps of Engineers – River Navigation Charts	http://www.lrl.usace.army.mil/
The River School – River Training & Orientation	http://www.riverschool.com/
Incident Command System (ICS) Courses – Response Training	http://training.fema.gov/EMIWEB/IS/crslist.asp
National Incident Management System (NIMS) Courses – Response Training	http://training.fema.gov/EMIWEB/IS/crslist.asp
U.S. Coast Guard Port Security Directorate	http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm
U.S. Coast Guard – Eighth District Site – New Orleans, LA	http://www.uscg.mil/d8/units.htm
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	http://www.uscg.mil./d8/Sector/LwrMsRvr/
Gulf States Maritime Association (GSMA)-	http://www.gsma.us/
U.S Coast Guard- MSU Baton Rouge	http://www.uscg.mil/d8/msu/batonrouge/home.html

4. Action Plan

During a waterways crisis a wide range of controls and actions are initiated from various involved parties including industry and federal government agencies. In general, industry will take action to reduce potential marine casualties during low & high water situations. For example, during low water conditions (10 feet and below on Baton Rouge gauge), industry will reduce loads on vessels and/or barges, which reduces their drafts, enabling them to navigate through trouble areas. During high water conditions (28 feet and above Baton Rouge gauge), industry may reduce tow sizes to allow more control over the tow and to more effectively utilize towboat horsepower. The Coast Guard and Army Corps of Engineers are also required to take specific and timely actions to aid in preventing marine casualties while facilitating commerce. Some of these actions include the USCG's issuance of Broadcast Notice to Mariners (BNTM) regarding potential hazardous areas and the establishment of Safety Zones. Dredging operations by the ACOE is a typical mission to reduce the risk in hazardous locations on the river.

On the following pages, various safety controls are outlined per specific high and low water trigger points. Some of these controls are industry initiated, while others are initiated at the federal level. The phases were based on the existing River Crisis Action Plan and modification made during the 2005 high water season. As before circumstances will dictate which, if not all, controls are to be employed.

- A. **Watch:** This phase incorporates both the Port Allen Locks and the Lower Mississippi River (LMR) between MM 226 and MM 237. It is initiated for both when the Baton Rouge gauge measures 28-feet and rising.
- B. **Action:** This phase is initiated when the Baton Rouge gauge measures 30-feet for the Port Allen Lock and when the Gauge measures 35-Feet for the LMR between MM 226 and MM 237.
- C. **Recovery:** This phase is initiated as soon as the LMR begins to fall and all predictions indicate a steady fall. During this phase the COTP with industry participation will determine when and what restrictions to lift as conditions begin to improve.
- D. <u>Regulated Navigation Area and Limited Access areas (RNA)</u>: is a water area within a defined boundary for which regulations for vessels navigating within the area have been established by the District Commander. The regulation may include:
 - 1. Specifying times of vessel entry, movement, or departure to, from, with-in, or through ports, harbors, or other waters.
 - 2. Establishing vessel size, speed, draft limitations, and operating conditions.
 - 3. Restricting vessel operation, in a hazardous area or under hazardous conditions, to vessels which have particular operation characteristics or capabilities which are considered necessary for safe operation under the circumstances.

There are two permanent RNAs established by 33 CFR 165.803 and 33 CFR 165.810 that effect this section of the LMR.

RNA- Barge Fleeting Operations (Baton Rouge Gauge)

33 CFR 165.803 describes barge mooring rules for the Lower Mississippi River between miles 88 and 240 (Above Head of Passes) to minimize fleeting hazards. Subsection (m) has additional rules for High Water periods.

Baton Rouge Gauge	Required Actions						
30 feet or more or, 28 feet and rising when	Fleet PIC must:						
designated by the District Commander (Note this	Attend fleet with tug(s)						
RNA is based on Carrollton Gage readings of 12ft or more than 10 ft and rising. For convenience	Radar surveillance of fleet in low visibility						
we have listed the equivalent on the Baton Rouge gauge)	 Do not assemble or disassemble tows during low visibility 						
	 Ensure fleets w/8 or more barges are equipped w/1 radar equipped towboat for each 100 barges or less 						
	 Ensure 2 or more towboats are in attendance when barges are withdrawn, moved or added & 8 or more barges in fleet 						

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Locks Mile 225 - 229	28'0"	Rising	3.8 MPH	High Water	Watch	 Conference call to discuss current flow rate and prediction of rise/crest. Advisory issued recommending all tows greater that 600' (excluding towboat) employ a PAV (Private Assist Vessel). Evaluate the need for a COTP order requiring tows greater than 600' (excluding towboat) to employ a PAV when exiting locks. Evaluate the need for a COTP Safety Zone at all/some canal fore bays. Canal Towing should consider using TAV (Traffic Assist Vessel) in/out of Port Allen Locks Evaluate the need for Northbound tows exiting the lock to head South and top North below MM 226 Use most experienced crews

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Locks Mile 225 - 229	30'0"	Rising	xx MPH	High Water	Watch	Conference call to discuss current flow rate and prediction of rise/crest.
						Evaluate the need for a COTP order requiring tows greater than 600' (excluding towboat) to employ a PAV (Private Assist Vessel) when exiting locks.
						Evaluate the need for a COTP Safety Zone at all/some canal fore bays.
						 Canal Towing should consider using TAV (Traffic Assist Vessel)/PAV in/out of Port Allen Locks
						 Advisory issued for Northbound tows exiting the lock to head South and top North below MM 226
						> Use most experienced crews

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Lock Mile 225 - 229	35'0"	Rising projected to 39'0"	4.5 MPH	Extreme High Water	Action	 Conference call to discuss impending attainment of 39'. Implement Safety Zone for area & establish the Traffic Control Center. Implement 5 ton per 1 hp or 280 HP per regulation barge restriction on canal tows entering/exiting the Locks. Implement TAV or PAV requirements at Port Allen Locks All tows over 600' (excluding towboat) exiting the lock must turn south bound and top around at MM226 using a TAV/PAV with a min of 1200 HP. All tows entering the locks that are greater than 600 feet in length (excluding towboat) must use a PAV with minimum of 1800 HP. All tows 300-600 feet in length (excluding towboat) entering the locks must use a TAV/PAV with minimum of 1200 HP.

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Lock Mile 225 - 229	35'0" (Continued)	Rising projected to 39'0"	4.5 MPH	Extreme High Water	Action	(Continued) ➤ All tows less than 600' (excluding towboat) exiting the lock must turn south bound and top around at MM226. Use of TAV/PAV is advisory not mandatory. ➤ All tows 300' and less (excluding towboat) may enter the lock without TAV/PAV. Use of TAV/PAV is advisory not mandatory. ➤ If unable to meet the HP to Ton requirement and permission obtained to enter Safety Zone from TCC, then PAV is mandatory for entering of exiting the Locks. ➤ Deep draft vessels not to anchor in the upper ½ mile of Baton Rouge General Anchorage. ➤ Consider additional anchorage restrictions ➤ Use most experienced crews

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Locks Mile 225 - 229	39'0"	Rising		Max Locking Ability	Action	 Conference call to discuss additional HP, Length, and Anchorage restrictions TAV use mandatory for all Tows entering or exiting Locks.

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Port Allen Locks Mile 225 - 229	39'0"	Falling		Extreme High Water	Recovery	Conference call to discuss phase down of restrictions and controls implemented.
	35'0"	Falling		High Water	Recovery	Conference call to discuss phase down of restrictions and controls still in place.
	28'0"	Falling		Normal Operations	Recovery	Conference call to discuss phase down of restrictions and controls still in place.

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Wilkinson Point Mile 232 -237	28'0"	Rising	3.8 MPH	High Water	Watch	 Conference call to discuss current flow rate and prediction of rise/crest. Advisory issued to all line tow operators and towing companies recommending a ratio of 240 horsepower per barge for southbound transit of this area Maximum tow size of 36 barges Consider allowing 8000 HP tug to push 35 barge tow makeup. Monitor conditions at Wilkinson Point for developing problems Buoys that will prevent tows from taking a proper line around points and bends should be adjusted to not hinder flanking operations Owner/Operators will ensure towing vessel inspections are completed before entering the RNA as per 33 CFR 164 and 33 CFR 165.810(f). Use most experienced crews

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Wilkinson Point Mile 232 -237	33'0"	Rising	4.1 MPH	High Water	Watch	Conference call to discuss impending attainment of 35'.
						 Discuss river stage forecasts, current velocities, and predictions of crest.
						> COTP to reissue Marine Information Broadcasts, as needed.
						 Discuss when to establish Safety zone and implementation of the Traffic Control Center.
						 Discuss the need and implementation point for the Tug Assist Vessel.

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Wilkinson Point Mile 232 - 237	35'0"	Rising projected to 39'0"	4.5 MPH	Extreme High Water	Action	 ➤ Conference call to discuss 35' attainment and 39' impending attainment. ➤ If a safety zone is established for the area, one or all of the following will be implemented: Implement Max tow size to a limitation of 30 barges with 280 HP for Southbound transits within Safety Zone. All South Bound traffic will utilize the TAV (min 5600 HP). All South Bound traffic will transit Wilkinson point during daylight hours only. Northbound vessels unable to make 3 MPH under the Highway 190 Bridge and around Wilkinson Point must use a PAV. Establish a "no meeting or passing zone" for MM 232 AHOP to MM 237 AHOP Traffic Control Center will be established. ➤ Tank barges shall be placed in most protected position in tow makeup. ➤ Advisory that all tows shall be squared off. No spiked barges shall extend greater than 50;' beyond the head of the tow. ➤ Use most experienced crews

CRITICAL AREA DESCRIPTION	TRIGGER READING	END TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Wilkinson Point Mile 232 - 237	Risi	ng	Extreme High Water	Action	 Conference call to discuss additional HP, Length, and size restrictions Safety zone implemented at Wilkinson Point Implement max tow size limited to 25 barges with 300 BHP for Southbound transits within the Safety Zone All South Bound traffic will utilize the TAV (min 5600 HP). All South Bound traffic will transit Wilkinson point during daylight hours only. Northbound vessels unable to make 3 MPH under the Highway 190 Bridge and around Wilkinson Point must use the TAV if they are a line hauler or a PAV for all other vessel traffic. Establish a "no meeting or passing zone" for MM 232 AHOP to MM 237 AHOP Traffic Control Center will be established. Note: Vessels transiting the safety zone that have mixed loaded/empty tows and do not meet the horsepower per barge requirement must contact the Traffic Control Center to obtain permission to transit

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTIONS
Wilkinson Point Mile 232 - 237	39'0"	Falling		Extreme High Water	Recovery	Conference call to discuss phase down of restrictions and controls implemented.
	35'0"	Falling		High Water	Recovery	Conference call to discuss phase down of restrictions and controls still in place.
	28'0"	Falling		Normal Operations	Recovery	Conference call to discuss phase down of restrictions and controls still in place.

CRITICAL AREA DESCRIPTION	TRIGGER READING Canal/land side	TREND	DESCRIPTION	PHASE	ACTIONS
Port Allen-Morgan City Alternate Route Mile MM 37.6 to MM 45 Bayou Sorrel/Bayou Pigeon	5.5'	Rising	High Water	Watch	 Conference call to discuss current flow rate and prediction of rise/crest. Issue a Marine Information Broadcast to advise mariners to transit area at slow speed with no discernable wake and/or not more than one inch.

CRITICAL AREA DESCRIPTION	TRIGGER READING Canal/land side	TREND	DESCRIPTION	PHASE	ACTIONS
Port Allen-Morgan City Alternate Route Mile MM 37.6 to MM 45 Bayou Sorrel/Bayou Pigeon	6.0'	Rising	High Water	Watch	 Conference call to discuss current flow rate and prediction of rise/crest. Establish a Safety Zone from Mile 37.6 (Bayou Sorrel Locks) to Mile 45 and Bayou Pigeon from intersection with Port Allen Alternate Route to Iberville Parish line. Establish a no wake zone Implement tow restrictions to include the overall dimensions of any barge towed will not exceed 1080 feet (as a composite unit including tug) by 54 feet (single wide only). MSU BR will coordinate a test tow (loaded double-wide) from mile 40 to mile 45 to evaluate the impact to the residences along the canal before considering easing the restrictions. If it is determined that there are no negative impacts to the community, we will conduct a conference call with all key stakeholders and implement the change. This will have no impact on the no-wake zone; the only change will be to allow tows to make and break tows between Mile 40 and 41 and reduce the transit when tripping barges. Update Marine Information Broadcast to advise mariners of Safety Zone.

CRITICAL AREA DESCRIPTION	TRIGGER READING Canal/land side	TREND	DESCRIPTION	PHASE	ACTIONS
Port Allen-Morgan City Alternate Route Mile MM 37.6 to MM 45 Bayou Sorrel/Bayou Pigeon	6.5'	Rising	High Water	Watch	 Conference call to discuss current flow rate and prediction of rise/crest. Update Safety Implement one-way traffic though Bayou Sorrel Waterway Mile 37.6 to Mile 45. Close Bayou Pigeon Waterway to all commercial traffic.

CRITICAL AREA DESCRIPTION	TRIGGER READING Canal/land side	TREND	DESCRIPTION	PHASE	ACTIONS
Port Allen-Morgan City Alternate Route Mile MM 37.6 to MM 45 Bayou Sorrel/Bayou Pigeon	7.3'	Rising	High Water	Watch	Army Corps will close Bayou Sorrel Locks to all navigation.

CRITICAL AREA DESCRIPTION	TRIGGER READING Canal/land side	TREND	DESCRIPTION	PHASE	ACTIONS
Port Allen-Morgan City Alternate Route Mile MM 37.6 to MM 45 Bayou	7.3'	Falling	Extreme High Water	Recovery	Conference call to discuss phase down of restrictions and controls implemented.
Sorrel/Bayou Pigeon	6.5'	Falling	High Water	Recovery	Conference call to discuss phase down of restrictions and controls still in place.
	6.0'	Falling	High Water	Recovery	 Conference call to discuss phase down of restrictions and controls still in place. Cancel Safety Zone.
	5.5'	Falling	High Water	Recovery	 Conference call to discuss phase down of restrictions and controls still in place. Cancel Marine Safety Broadcast.

5. Risk Assessment

5. A. Low Water (Baton Rouge Gauge = 10 Feet and below)

	Factors to Increase Likelihood of Casualty								Score
LOCATION	Obs to Nav	Channel Width	Bend Radius	Congestion	Casualty History	Risk Score		High	100
MM225-233 (Port Allen Locks-I-10 Bridge)	High	Medium	Medium	High	Low	222		Medium	10
MM233-238 (Wilkinson Point -190 Bridge)	High	Medium	Medium	High	Low	222			
MM238-246 (Thomas Pt- Springfield Bend)	Low	High	High	Medium	Low	213	Acceptable Risk Threshold		480
MM246-260 (Profit Island -Fancy Point)	Low	High	Medium	Medium	Low	123			
MM260-275 (Pointe Coupee)	Low	High	Medium	Medium	Low	123			
MM275-282 (Morganza Bend)	Low	High	Medium	Medium	Low	123			
MM282-295 (Tunica Bend)	Low	High	Low	Medium	Low	114			
MM295-302 (Hog Point)	Low	High	Low	Medium	Low	114			
MM302-306 (Old River Lock)	Low	High	Low	Medium	Low	114			
MM306-320 (Old River Control Structure)	Low	High	Low	Medium	Low	114			

MM	Description	Casualties
225-233	Port Allen Locks - I-10 Bridge	2
233-238	Wilkinson Point - 190 Bridge	2
238-246	Thomas Point - Springfield Bend	1
246-260	Profit Island - Fancy Point	3
260-275	Pointe Coupee	0
275-282	Morganza Bend	0
282-295	Tunica Bend	0
295-302	Hog Point	3
302-306	Old River Lock	1
306-320	Old River Control Structure	0

5. B. Normal water (Baton Rouge Gauge = 10 - 28 Feet)

	Facto	Factors to Increase Likelihood of Casualty							Score
LOCATION	Obs to Nav	<u>Channel</u> <u>Width</u>	Bend Radius	Congestion	Casualty History	Risk Score		High	100
MM225-233 (Port Allen Locks-10 Bridge)	High	Medium	Medium	High	High	420		Medium	10
MM233-238 (Wilkinson Point -190 Bridge)	High	Medium	Medium	High	High	420			
MM238-246 (Thomas Pt- Springfield Bend)	Low	Medium	High	Medium	Low	123	Acceptable Risk Threshold		480
MM246-260 (Profit Island-Fancy Point)	Medium	High	Medium	Medium	Low	132			
MM260-275 (Pointe Coupee)	Low	Medium	Medium	Medium	Low	33			
MM275-282 (Morganza Bend)	Low	Medium	Medium	Medium	Low	33			
MM282-295 (Tunica Bend)	Low	Medium	Low	Medium	Low	24			
MM295-302 (Hog Point)	Low	Medium	Low	Medium	Low	24			
MM302-306 (Old River Lock)	Low	Medium	Low	Medium	Low	24			

MM	Description	Casualties
225-233	Port Allen Locks - I-10 Bridge	19
233-238	Wilkinson Point - 190 Bridge	12
238-246	Thomas Point - Springfield Bend	2
246-260	Profit Island - Fancy Point	4
260-275	Pointe Coupee	2
275-282	Morganza Bend	0
282-295	Tunica Bend	1
295-302	Hog Point	2
302-306	Old River Lock	1

5. C. High Water (Baton Rouge Gauge = 28 feet and higher. Note: the casualty history and scoring of Port Allen Locks and

Wilkinson Point were completed assuming continuation of the existing River Crisis Action Plan in place.)

	Facto	Factors to Increase Likelihood of Casualty							Score
LOCATION	Obs to Nav	Channel Width	Bend Radius	Congestion	Casualty History	Risk Score		High	100
MM225-233 (Port Allen Locks-I-10 Bridge)	High	Medium	Medium	High	Medium	240		Medium	10
MM233-238 (Wilkinson Point -190 Bridge)	High	High	Medium	High	Low	312			
MM238-246 (Thomas Pt- Springfield Bend)	Low	High	High	Medium	Low	213	Acceptable Risk Threshold		480
MM246-260 (Profit Island - Fancy Point)	Low	High	Medium	Medium	Low	123			
MM260-275 (Pointe Coupee)	Low	Medium	Medium	Medium	Low	33			
MM275-282 (Morganza Bend)	Low	Medium	Medium	Medium	Low	33			
MM282-295 (Tunica Bend)	Low	Medium	Low	Medium	Low	24			
MM295-302 (Hog Point)	Low	Medium	Low	Medium	Low	24			
MM302-306 (Old River Lock)	Low	Medium	Low	Medium	Low	24			

MM	Description	Casualties
225-233	Port Allen Locks - I-10 Bridge	9
233-238	Wilkinson Point - 190 Bridge	2
238-246	Thomas Point - Springfield Bend	2
246-260	Profit Island - Fancy Point	2
260-275	Pointe Coupee	1
275-282	Morganza Bend	0
282-295	Tunica Bend	0
295-302	Hog Point	0
302-306	Old River Lock	1

5. D. Risk Legend

Risk Factors							
Need for Precise Control		Navigational Complexity	Congestion				
Control	Obstructions to Navigation	Channel Width (Full Banks)	Bend Radius		Casualty History (7 yr period)		
High	Multiple Obstructions	Narrow - single passage	sharp bend: >180 deg	traffic always present	>10		
Medium	Single Obstruction	Medium - dual passage is possible/likely	gradual bend: between 90 and 180 deg	traffic sometimes present	6>x>10		
Low	No Obstructions	Wide - more than 2 vessel passage possible	no bend: >90 deg or no river crossing	traffic rarely present	>6		

•